```
Layer (type)              Output Shape            Param #
=================================================================
dense_1 (Dense)           (None, 128)             65664
_____
dropout_1 (Dropout)       (None, 128)             0
_____
dense_2 (Dense)           (None, 1)               129
=================================================================
Total params: 65,793
Trainable params: 65,793
Non-trainable params: 0
_____
```

WARNING:tensorflow:From C:\Users\shaggyday\AppData\Local\Programs\Python\Python37\lib\site-packages\tensorflow\python\ops\math_ops.py:3066: to_int32 (from tensorflow.python.ops.math_ops) is deprecated and will be removed in a future version.
Instructions for updating:
Use tf.cast instead.
Train on 40000 samples, validate on 10000 samples
Epoch 1/20
2019-06-04 15:45:18.400033: I tensorflow/core/platform/cpu_feature_guard.cc:141] Your CPU supports instructions that this TensorFlow binary was not compiled to use: AVX2
40000/40000 [==============================] - 3s 65us/step - loss: 0.3737 - acc: 0.8353 - val_loss: 0.3335 - val_acc: 0.8533
Epoch 2/20
40000/40000 [==============================] - 2s 58us/step - loss: 0.3391 - acc: 0.8517 - val_loss: 0.3272 - val_acc: 0.8583
Epoch 3/20
40000/40000 [==============================] - 2s 60us/step - loss: 0.3300 - acc: 0.8542 - val_loss: 0.3216 - val_acc: 0.8624
Epoch 4/20
40000/40000 [==============================] - 2s 59us/step - loss: 0.3242 - acc: 0.8589 - val_loss: 0.3181 - val_acc: 0.8618
Epoch 5/20
40000/40000 [==============================] - 3s 71us/step - loss: 0.3186 - acc: 0.8617 - val_loss: 0.3162 - val_acc: 0.8627
Epoch 6/20
40000/40000 [==============================] - 2s 58us/step - loss: 0.3145 - acc: 0.8652 - val_loss: 0.3148 - val_acc: 0.8633
Epoch 7/20
40000/40000 [==============================] - 2s 59us/step - loss: 0.3125 - acc: 0.8638 - val_loss: 0.3193 - val_acc: 0.8586
Epoch 8/20
40000/40000 [==============================] - 2s 57us/step - loss: 0.3087 - acc: 0.8678 - val_loss: 0.3139 - val_acc: 0.8626
Epoch 9/20
40000/40000 [==============================] - 3s 63us/step - loss: 0.3054 - acc: 0.8689 - val_loss: 0.3105 - val_acc: 0.8681
Epoch 10/20
40000/40000 [==============================] - 2s 57us/step - loss: 0.3029 - acc: 0.8703 - val_loss: 0.3160 - val_acc: 0.8581
Epoch 11/20
40000/40000 [==============================] - 2s 58us/step - loss: 0.2989 - acc: 0.8733 - val_loss: 0.3070 - val_acc: 0.8694
Epoch 12/20
40000/40000 [==============================] - 2s 57us/step - loss: 0.2970 - acc: 0.8738 - val_loss: 0.3062 - val_acc: 0.8703
Epoch 13/20
40000/40000 [==============================] - 2s 59us/step - loss: 0.2951 - acc: 0.8755 - val_loss: 0.3099 - val_acc: 0.8676
Epoch 14/20
40000/40000 [==============================] - 2s 57us/step - loss: 0.2927 - acc: 0.8757 - val_loss: 0.3098 - val_acc: 0.8681
Epoch 15/20
40000/40000 [==============================] - 2s 58us/step - loss: 0.2893 - acc: 0.8787 - val_loss: 0.3063 - val_acc: 0.8685
Epoch 16/20
40000/40000 [==============================] - 2s 57us/step - loss: 0.2874 - acc: 0.8797 - val_loss: 0.3062 - val_acc: 0.8687
Epoch 17/20
40000/40000 [==============================] - 2s 57us/step - loss: 0.2854 - acc: 0.8792 - val_loss: 0.3047 - val_acc: 0.8712
Epoch 18/20
40000/40000 [==============================] - 2s 57us/step - loss: 0.2830 - acc: 0.8809 - val_loss: 0.3046 - val_acc: 0.8703
Epoch 19/20
40000/40000 [==============================] - 2s 57us/step - loss: 0.2805 - acc: 0.8839 - val_loss: 0.3099 - val_acc: 0.8674
Epoch 20/20
40000/40000 [==============================] - 2s 57us/step - loss: 0.2798 - acc: 0.8820 - val_loss: 0.3068 - val_acc: 0.8697

model accuracy & loss